

Appl. No. 09/706,926
Amdt. dated May 14, 2004
Reply to final Office action of March 5, 2004

REMARKS

This is in response to the final Office Action mailed March 5, 2004. In the final Office Action, Application's Claims 1-2, 5, 7-8, 11, 13, 16, 18, 20-22, 24 and 26 were rejected as anticipated by U.S. Pat. No. 5,544,052 ("Fujita"). Applicant's Claims 3-4, 9-10, 12, 14-15, 17, 23, 25 and 27 were rejected as obvious in view of the combination of Fujita and U.S. Pat. No. 5,737,508 ("Feigenbaum"). Applicant's Claims 6 and 19 were rejected as obvious in view of the combination of Fujita and U.S. Pat. No. 6,516,099 ("Davision").

Applicant respectfully requests the Examiner to reconsider the present application. Applicant submits that all pending claims in the present application are allowable over the cited references as explained below.

Independent Claim 1

Applicant's independent Claim 1 relates to a method for representing cartographic data. The recited method comprises computing a plurality of wavelet and scaling coefficients corresponding to at least one function representing a geographic feature in a cartographic database. The method also comprises storing the wavelet and scaling coefficients in a database. Fujita does not anticipate Claim 1 because Fujita fails to disclose or suggest every claim element of Claim 1. Specifically, Fujita fails to disclose or suggest the recited wavelet coefficients.

Fujita discloses a method for displaying cartographic data in a variety of different map projections. Fujita converts between the map display projections using linear interpolation coordinate transformations. (*See*, Fujita: column 4, lines 1-3, 20-25). The final Office Action indicated that Fujita disclosed the wavelet and scaling coefficients as a coefficient of a coordinate transformation formula and precision in the transformation. The final Office Action further pointed to a scaling operation as disclosing the scaling coefficients and a precision evaluation of the transformation as disclosing the wavelet coefficients. (*See*, final Office Action: pages 8-9).

Applicant respectfully requests reconsideration of Claim 1. Although, as disclosed in the Applicant's Specification, the wavelet representation can provide an accurate

Appl. No. 09/706,926
 Amdt. dated May 14, 2004
 Reply to final Office action of March 5, 2004

representation of the data (See, Specification: page 4, lines 1-2), the precision evaluation of Fujita does not disclose or suggest the wavelet coefficients claim element.

Applicant respectfully points out that wavelets are a class of mathematical functions of the following form (See, Specification: page 4, line 14):

$$\psi_{ab}(x) = |a|^{-1/2} \psi\left(\frac{x-b}{a}\right)$$

The wavelet may be transformed as shown in the analysis and synthesis equations (See, Specification: page 5, lines 20-25):

$$\text{Analysis Equation: } F(m, i) = \int_{-\infty}^{\infty} f(x) \psi_{mi}(x) dx$$

$$\text{Synthesis Equation: } f(x) = \sum_{m=-\infty}^{\infty} \sum_{i=-\infty}^{\infty} F(m, i) \psi_{mi}(x)$$

wherein the values $F(m, i)$ are called wavelet coefficients. The wavelet transform represents the continuous function $f(x)$ in terms of a set of discrete wavelet coefficient values $F(m, i)$. Furthermore, as described in the Specification, each geographic feature can be represented as a continuous function in space in the form $f(x, y, z) = 0$, where x , y and z represent latitude, longitude and altitude. In order to apply the wavelet transform, it is convenient to express each geographic feature in parametric form as a group $p(t)$ of polynomial functions of an independent parameter t as follows: $p(t) = [x(t) \ y(t) \ z(t)]$. The wavelet transform can then be applied to each of the functions $x(t)$, $y(t)$ and $z(t)$ providing $P(m, i) = [X(m, i) \ Y(m, i) \ Z(m, i)]$ where $X(m, i)$, $Y(m, i)$ and $Z(m, i)$ are the wavelet coefficients. (See, Specification: page 9, lines 8-20).

Fujita fails to disclose or suggest the claim element of the wavelet coefficients. The precision evaluating program of Fujita does not disclose the wavelet coefficients. Rather, the precision evaluating program of Fujita compares the amount of shift between true values for a map projection and the values from the linear interpolation coordinate transformation. (See, Fujita: column 17, lines 56-65). To determine the amount of shift from the coordinate transformation, Fujita creates straight lines having constant X and constant Y values corresponding to a vertex 1501 of the region of interest. The precision evaluation is executed along these lines to determine the amount of shift from the straight lines created by the

Appl. No. 09/706,926
Amdt. dated May 14, 2004
Reply to final Office action of March 5, 2004

coordinate transformations. (*Seg*, Fujita: column 18, lines 28-46, Figures 14 & 15). Thus, the precision evaluation of Fujita does not disclose the plain meaning of the wavelet coefficients recited in Claim 1.

Furthermore, cited references Feigenbaum and Davison also fail to disclose or suggest the wavelet coefficients.

Because Fujita fails to disclose or suggest every claim element, Fujita does not anticipate Applicant's independent Claim 1.

Independent Claim 8

Applicant's independent Claim 8 relates to a method of displaying a function representing a geographic feature. The recited method comprises retrieving a plurality of wavelet and scaling coefficients associated with the geographic feature, computing the function representing the geographic feature using the retrieved wavelet and scaling coefficients, and displaying the function. Fujita does not anticipate Claim 8 because Fujita fails to disclose or suggest every claim element of Claim 8. Specifically, as discussed in conjunction with Claim 1, Fujita fails to disclose or suggest the recited wavelet coefficients. Because Fujita fails to disclose or suggest every claim element, Fujita does not anticipate Applicant's independent Claim 8.

Independent Claim 11

Applicant's independent Claim 11 relates to a system for displaying a representation of a geographic feature. The recited system comprises a database storing a plurality of wavelet and scaling coefficients associated with the geographic feature, a processor configured to calculate a function representing the geographic feature, and a display for displaying the function. Fujita does not anticipate Claim 11 because Fujita fails to disclose or suggest every claim element of Claim 11. Specifically, as discussed in conjunction with Claim 1, Fujita fails to disclose or suggest the recited wavelet coefficients. Because Fujita fails to disclose or suggest every claim element, Fujita does not anticipate Applicant's independent Claim 11.

Appl. No. 09/706,926
Amdt. dated May 14, 2004
Reply to final Office action of March 5, 2004

Independent Claim 13

Applicant's independent Claim 13 relates to a method of generating a database that represents cartographic data using a plurality of wavelet and scaling coefficients. The recited method comprises computing a plurality of wavelet and scaling coefficients and storing the wavelet and scaling coefficients in the database. Fujita does not anticipate Claim 13 because Fujita fails to disclose or suggest every claim element of Claim 13. Specifically, as discussed in conjunction with Claim 1, Fujita fails to disclose or suggest the recited wavelet coefficients. Because Fujita fails to disclose or suggest every claim element, Fujita does not anticipate Applicant's independent Claim 13.

Independent Claim 16

Applicant's independent Claim 16 relates to a system for generating a database that represents cartographic data using a plurality of wavelet and scaling coefficients. The recited system comprises a processor configured to compute a plurality of wavelet and scaling coefficients and a database for storing the wavelet and scaling coefficients. Fujita does not anticipate Claim 16 because Fujita fails to disclose or suggest every claim element of Claim 16. Specifically, as discussed in conjunction with Claim 1, Fujita fails to disclose or suggest the recited wavelet coefficients. Because Fujita fails to disclose or suggest every claim element, Fujita does not anticipate Applicant's independent Claim 16.

Independent Claim 20

Applicant's independent Claim 20 relates to a method for generating a database error metric. The recited method comprises computing a first plurality of wavelet and scaling coefficients and computing a second plurality of wavelet and scaling coefficients. Fujita does not anticipate Claim 20 because Fujita fails to disclose or suggest every claim element of Claim 20. Specifically, as discussed in conjunction with Claim 1, Fujita fails to disclose or suggest the recited wavelet coefficients. Because Fujita fails to disclose or suggest every claim element, Fujita does not anticipate Applicant's independent Claim 20.

Appl. No. 09/706,926
Amdt. dated May 14, 2004
Reply to final Office action of March 5, 2004

Independent Claim 24

Applicant's independent Claim 24 relates to a system for generating a database error metric. The recited method comprises a processor configured to compute a first plurality of wavelet and scaling coefficients and a second plurality of wavelet and scaling coefficients. Fujita does not anticipate Claim 24 because Fujita fails to disclose or suggest every claim element of Claim 24. Specifically, as discussed in conjunction with Claim 1, Fujita fails to disclose or suggest the recited wavelet coefficients. Because Fujita fails to disclose or suggest every claim element, Fujita does not anticipate Applicant's independent Claim 24.

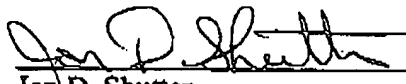
Applicant's dependent Claims 2-7, 9-10, 12, 14-15, 17-19, 21-23 and 25-27

Applicant's Claims 2-7, 9-10, 12, 14-15, 17-19, 21-23 and 25-27 are dependent claims that distinguish the cited references at least for the same reasons explained above in connection with their independent base claims. In addition, these claims recite further features and limitations that are neither disclosed nor suggested by these references.

Conclusion

All the issues in the final Office Action, dated March 5, 2004 have been addressed. Favorable consideration of the present application is requested. If any issues remain, the Examiner is invited to call the undersigned.

Respectfully submitted,


Jon D. Shutter
Reg. No. 41,311
Patent Counsel

NAVTEQ North America, LLC
222 Merchandise Mart Plaza, Suite 900
Chicago, IL 60654
(312) 894-7000 x7365